

Natural RPC - Overview

Remote procedure call (RPC) techniques establish a framework for communication between server and client systems that can be located on the same computer or based on a network of identical or heterogeneous machines and operating systems. Several basically similar methods are known. This documentation describes the theory of operation and the use of the RPC techniques provided by Natural to enable the design and to simplify the application of distributed software systems.

Related Documentation:

For instructions on the functions provided to maintain remote procedure calls refer to the Natural SYSRPC Utility documentation.

This document is organized in the following sections:

- Principles of Natural RPC
- Setting up a Natural RPC Environment
- Operating a Natural RPC Environment
- Using a Conversational RPC
- Using a Remote Directory Server (RDS)

Related Products

EntireX RPC for 3GL, Entire Network, EntireX Broker

Definition of Terms

The following table provides an overview of important key terms used in the SYSRPC Utility and the Natural RPC documentation:

Term	Explanation
Client Stub	<p>Accepts the CALLNAT requests on the client side, marshalls the parameters passed, transmits the data through the Natural RPC runtime and the transport layer to the remote server, unmarshalls the result and returns it to the caller.</p> <p>The client stub is the local subprogram via which the server subprogram is called. The client stub has the same name and contains the same parameters as the corresponding server subprogram.</p>
EntireX Broker Stub	Interface between the Natural RPC runtime and the EntireX Broker transport layer which exchanges marshalled data between client and server.
NATCLTGS	The name of the Natural subprogram generated with the SYSRPC utility to implement the service directory (see below).
Node Name	<p>The name of the node to which the remote CALLNAT is sent.</p> <p>In case of communication via the EntireX Broker, the node name is the name of the EntireX Broker for example, as defined in the EntireX Broker attribute file, in the field BROKER-ID.</p>
RPC Parameters	<p>All parameters available to control a Natural RPC as described in the Natural Parameter Reference documentation:</p> <p>The RPC parameters are included in the NTRPC macro (static definition) or are defined with the RPC profile parameter (dynamic definition). See NTRPC Macro and Profile Parameters (RPC - Remote-Procedure-Call Settings).</p>
Service Directory	The service directory contains information on the services (subprograms) that a server provides. It can be locally available on each client node, or it can be located on a remote directory server referenced by the RDS profile parameter (see the relevant section in the Natural Parameter Reference documentation).
Server Name	<p>The name of the server on which the CALLNAT is to be executed.</p> <p>In case of communication via EntireX Broker, the server name is the name as defined in the EntireX Broker attribute file, located in the field SERVER.</p>
Server Task	A Natural task which offers services (subprograms). This is typically a batch task or asynchronous task. It is identified by a server name.